

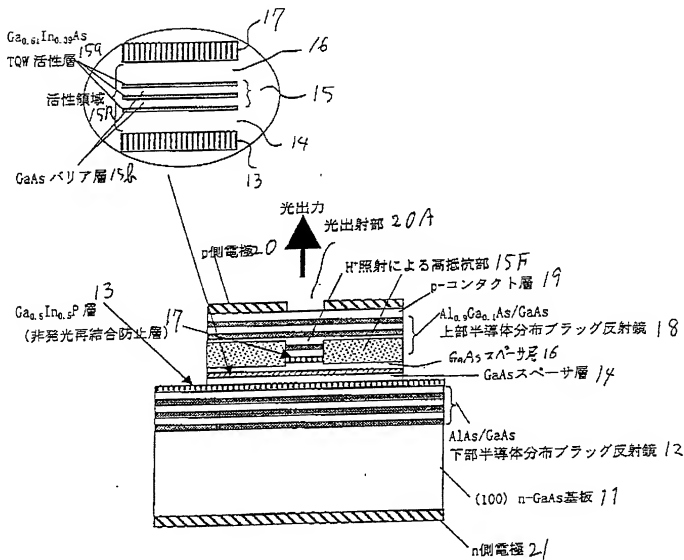
JP0109564

11-1

図

図1

FIG 1

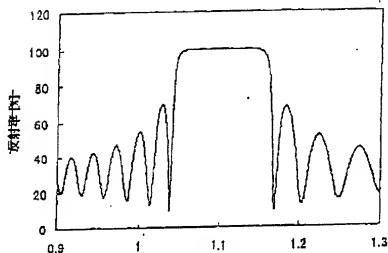


10085204.022602

[X] 2

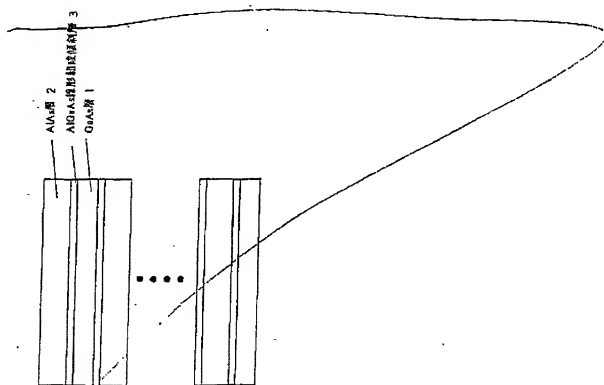
FIG 2

REFLECTANCE[%]



WAVELENGTH [nm]

[図 2]



[図 3]

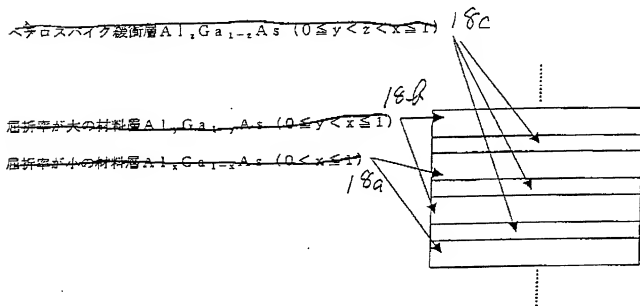
10055204.022602

202220.4025601

[18/3]
 3

FIG 3

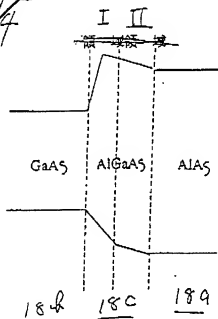
18 (12)



1085204-022602

~~[FIG 4]~~

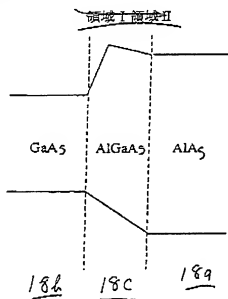
FIG 4



~~[FIG 5]~~

~~FIG 5~~

FIG 5

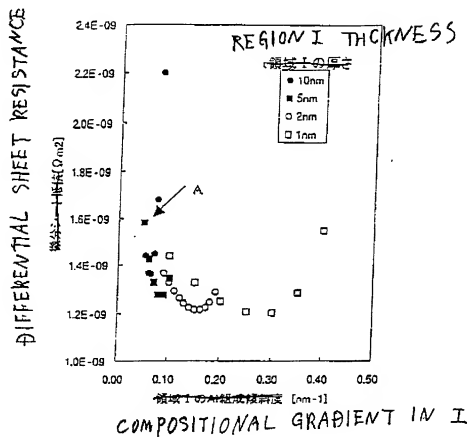


~~FIG 4~~

10085204.022602

~~[X] 6~~

FIG 6



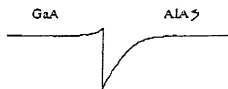
200220 10250001

~~[X] 7~~

FIG 7

~~[X] 8~~

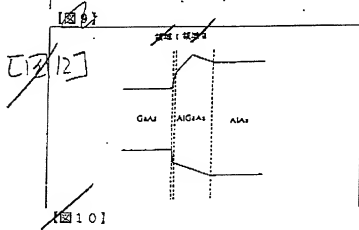
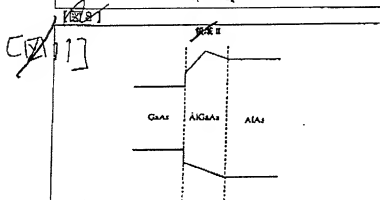
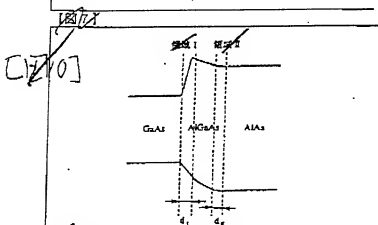
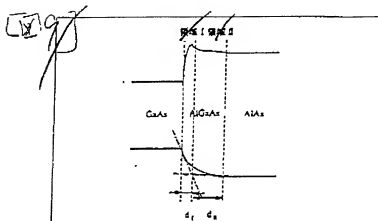
FIG 8



~~[X] 6~~



~~[X] 7~~



101

10085204.022602

FIG 13

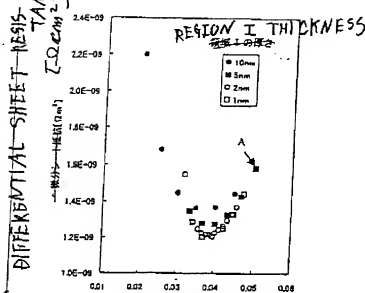


FIG 14

DIFFERENTIAL SHEET RESISTANCE [Ω cm²]

REGION I THICKNESS

COMPOSITIONAL GRADATION IN II [mm]

FIG 15

DIFFERENTIAL SHEET RESISTANCE [Ω cm²]

REGION II

COMPOSITIONAL GRADATION IN II [mm]

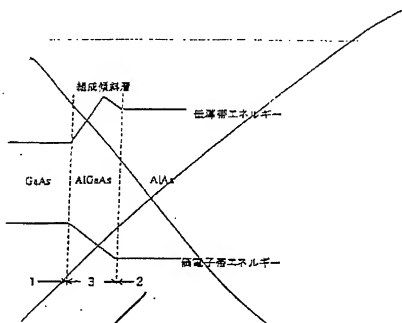


FIG 16

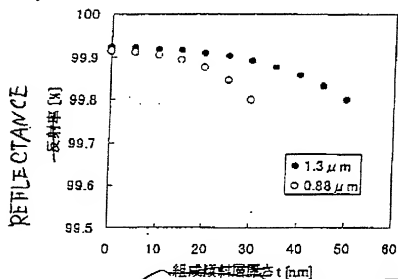
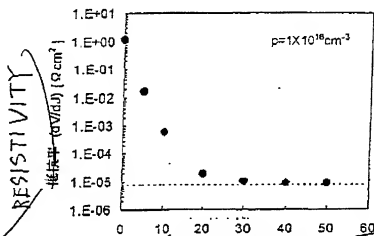


FIG 5

GRADIENT LAYER THICKNESS

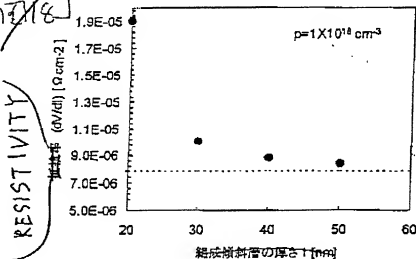
[017] FIG 17



組成傾斜度の厚さ t [nm]

COMPOSITIONAL GRADATION LAYER THICKNESS t [nm]

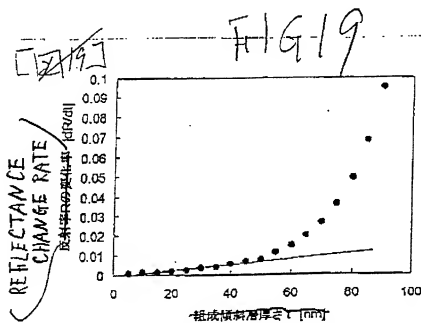
FIG 18



組成傾斜度の厚さ t [nm]

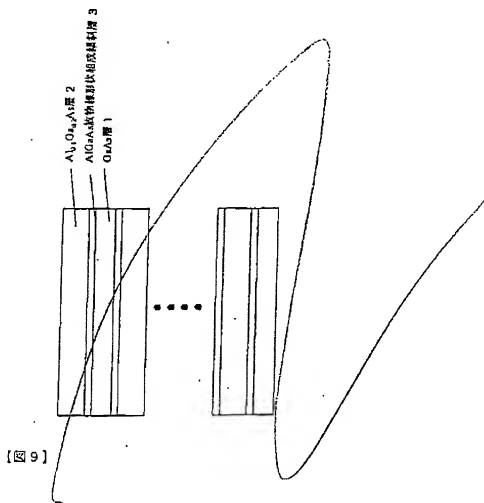
COMPOSITIONAL GRADATION LAYER THICKNESS t [nm]

202204022001



[図 8]

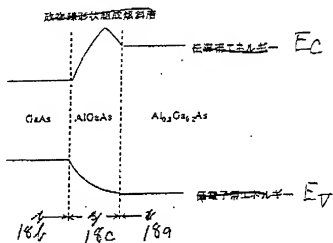
COMPOSITIONAL GRADATION LAYER
THICKNESS [nm]



209220 40258001

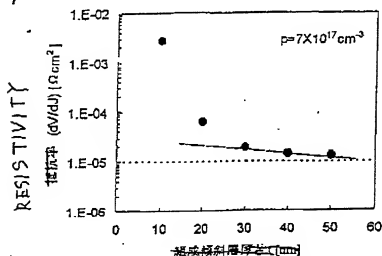
[20]

FIG 20



[21]

FIG 21



[图 11]

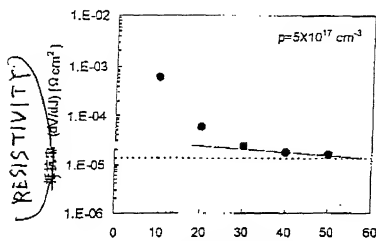
COMPOSITIONAL GRADATION LAYER THICKNESS

[μm]

202204025001

~~FIG 22~~

FIG 22



~~FIG 23~~

COMPOSITIONAL GRADATION LAYER THICKNESS [nm]

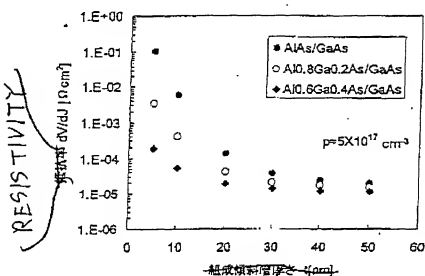


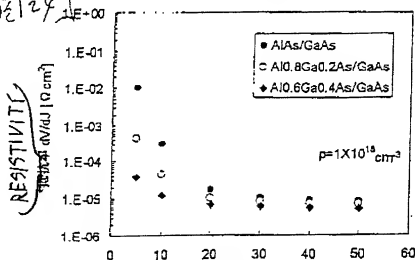
FIG 23

[FIG 13]

COMPOSITIONAL GRADATION LAYER THICKNESS [nm]

F1G24

[FIG 24]

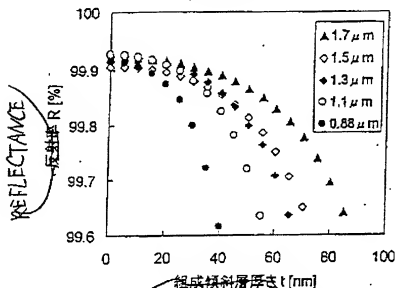


[FIG 25]

[FIG 25]

COMPOSITIONAL GRADATION LAYER THICKNESS

F1G25

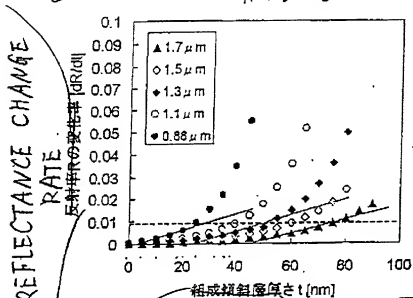


[FIG 15]

COMPOSITIONAL GRADATION LAYER THICKNESS

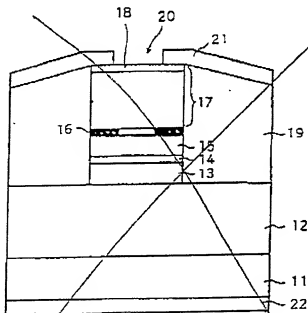
[12] 26

FIG 26



COMPOSITIONAL GRADATION LAYER THICKNESS

[16]



[17]

27

FIG 27



28
[28]

FIG 28

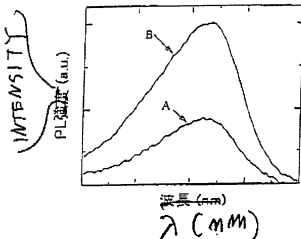


図 1 1

29
[29] FIG 29

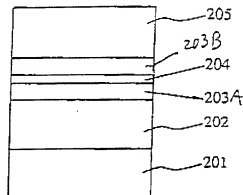


図 1 2

30
[30]

FIG 30

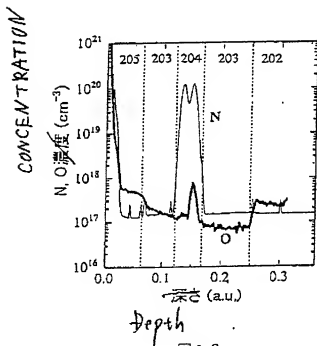
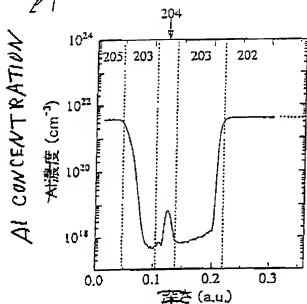


図 1 3

209220 40258001

~~[X] 16~~
 31

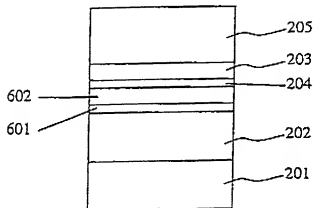
F1931



~~32~~
 Depth
~~14~~

~~[X] 15~~
 32

F1932



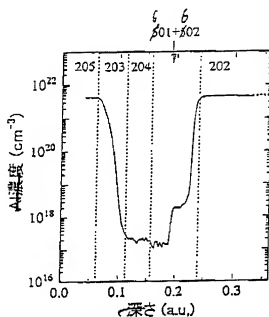
~~15~~

209220 40253001

33
[~~16~~]

F1G33

Al CONCENTRATION



~~飽和レベル~~
SATURATION

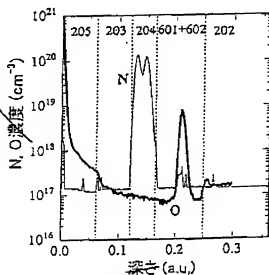
Depth

~~図 6~~

34
[~~17~~]

F1G34

CONCENTRATION



Depth

図 17

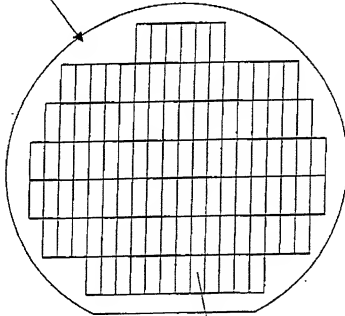
209220.40258001

35
~~FIG 35~~

93

FIG 35

~~ナ素子を形成した (100) n-GaAs ウェハ~~ 31



~~ナ素子ゲート~~ 32



~~FIG 35~~

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36
~~[2] 36~~

F1G36

33

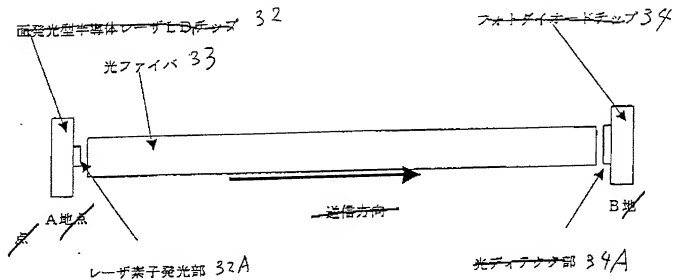


図 1

37
~~[2] 37~~

F1G37

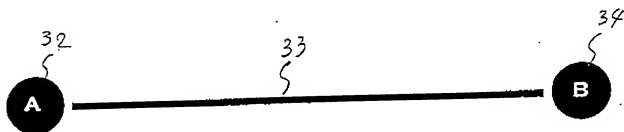


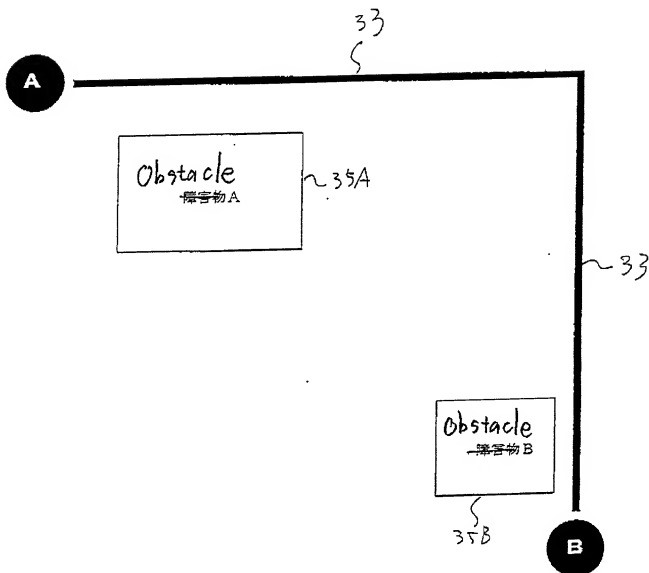
図 2

10085204.022602

43

38
[X] 31 []

HIG 38

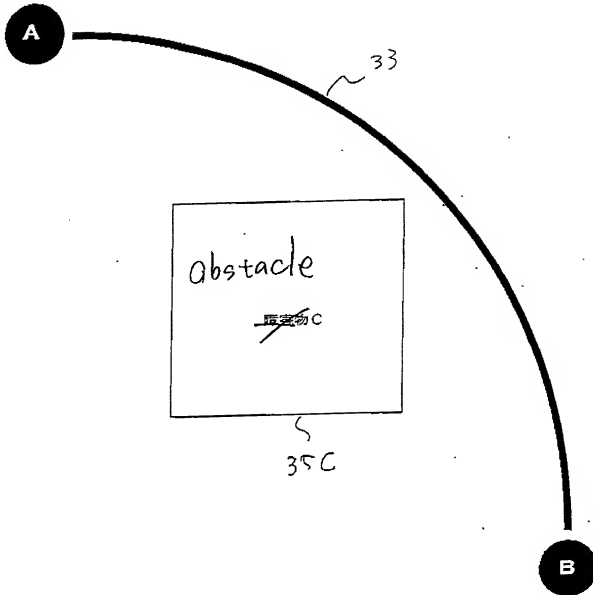


21

3

51
~~13 22~~

FIG 39

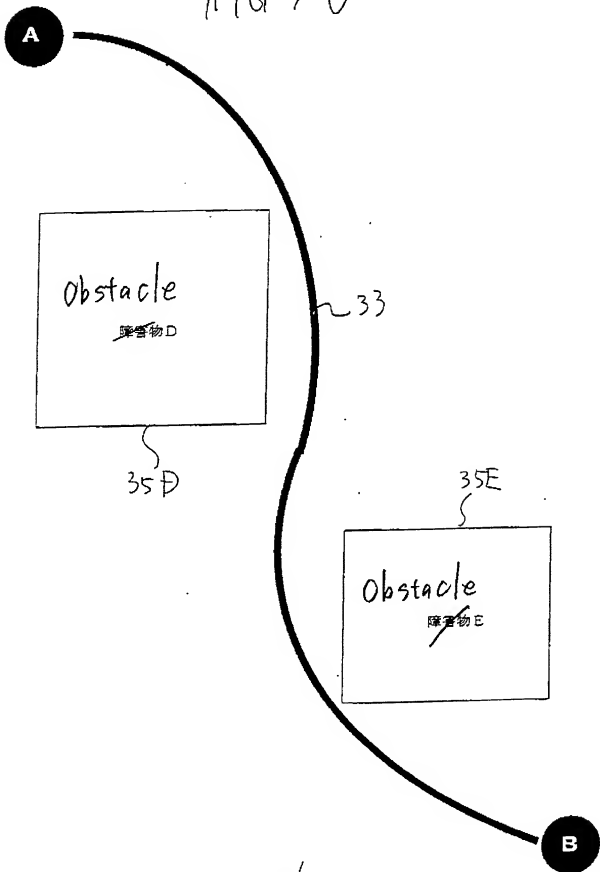


10085204.022602

FIG 40

FIG 40

FIG 40



10085204.022602

41
[]

FIG 4/

99

~~面発光型半導体レーザーダイオード~~ 32

光ファイバ F1

~~反射部材~~ R

~~光電子発光部~~ 32A

~~送信方向~~

~~送信方向~~

光ファイバ F2

光電子発光部
39A

~~フォトダイオード~~ 39

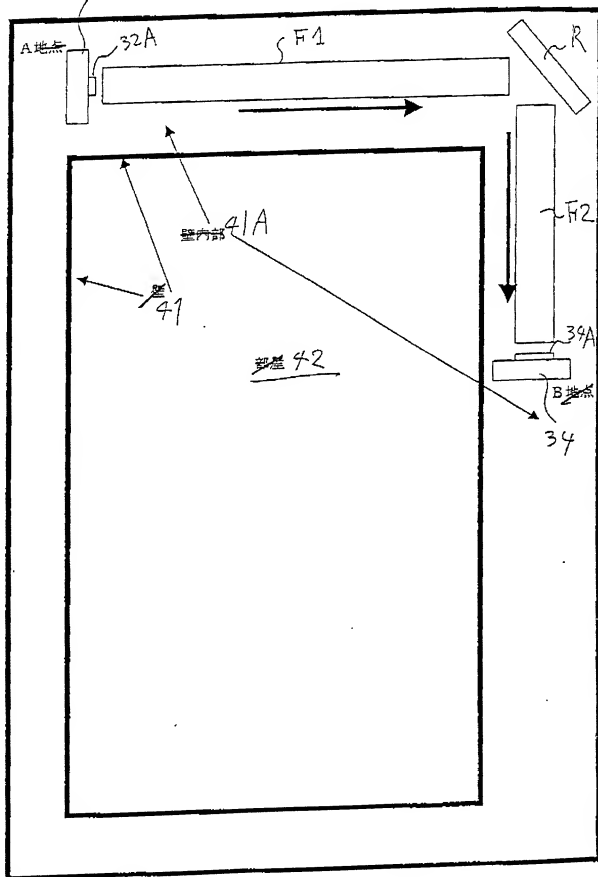
図 24

10085204.02602

181 42
 42

HIG'Z

44



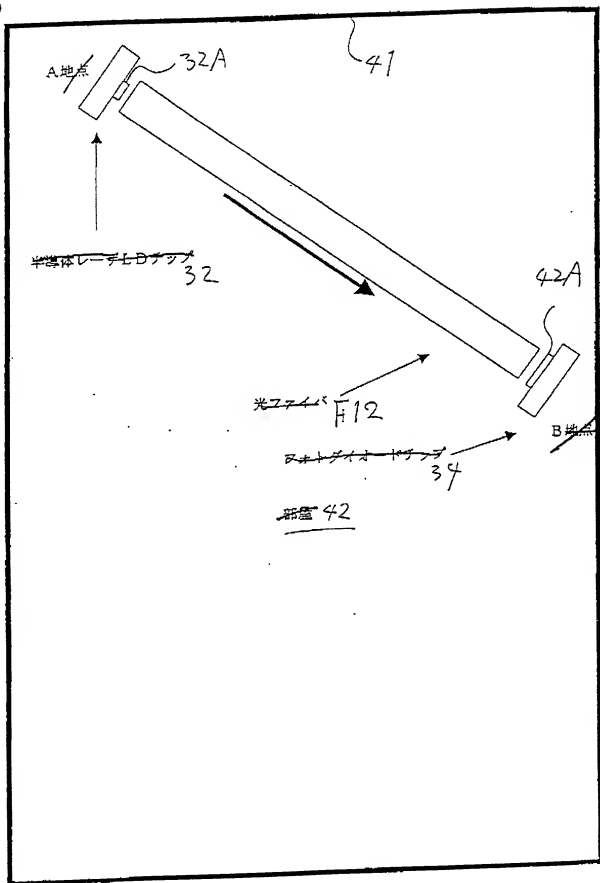
44

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□ 24 / 73

F/G 43

74



10085204.022602

図 26

FIG 44
44

FIG 44

44

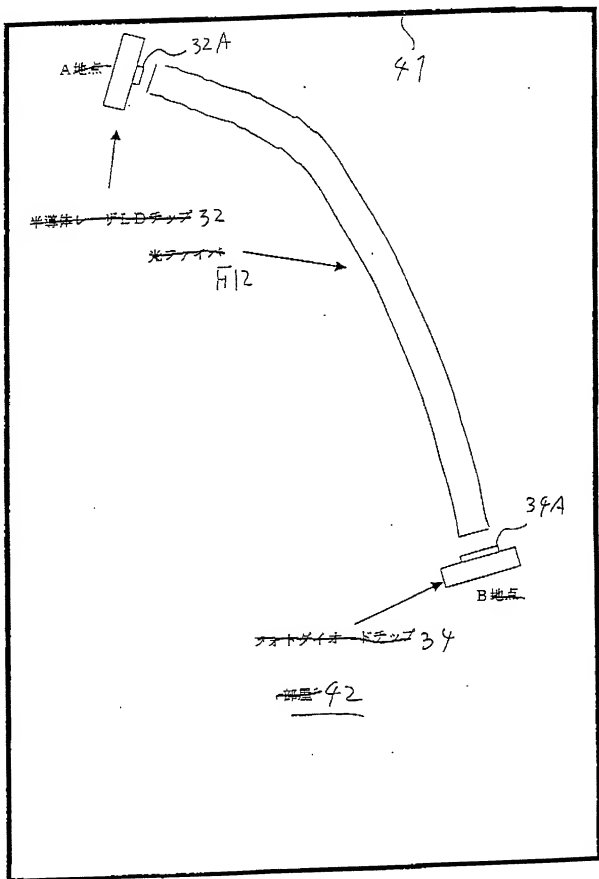


図 42

42

10085204.062602

FIG 45

74

~~図 28~~
 45

~~面発光型半導体レーザーチップ~~ 32

レーザー発光部 32A

~~フォトダイオードチップ~~ 34

光センサ部
 34A

送信方向

~~図 28~~
 46

~~面発光型半導体レーザーチップ~~ 32

FIG 46

反射部材 R

送信方向

~~レーザー発光部~~ 32A

送信方向

光センサ部 34A

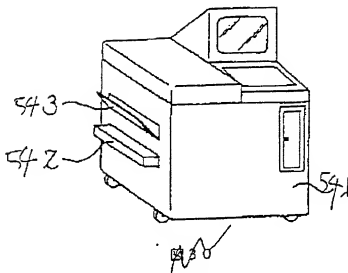
~~フォトダイオードチップ~~ 34

図 29
 1A

10035204.022602

~~47~~
~~12/80~~ F/G47

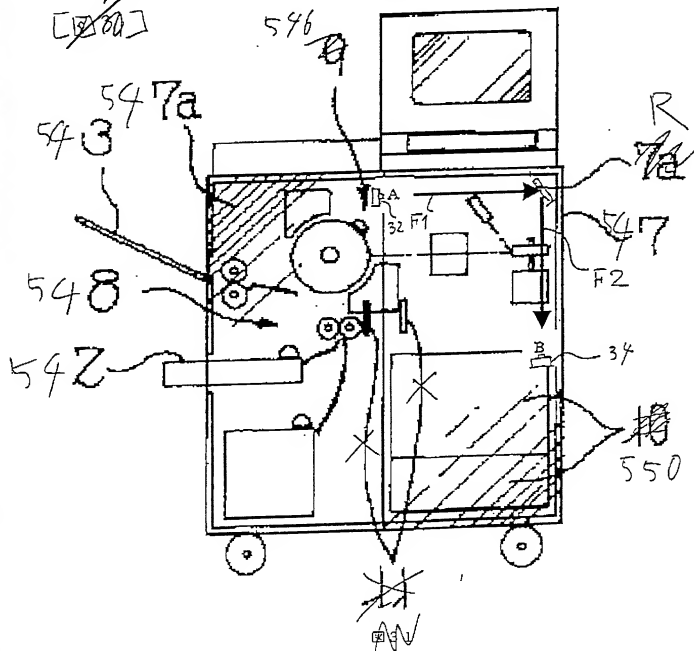
15



F/G48

~~48~~
~~12/80~~

546



10085204.022602

45

~~49~~
 [2/32]

FIG 49 551

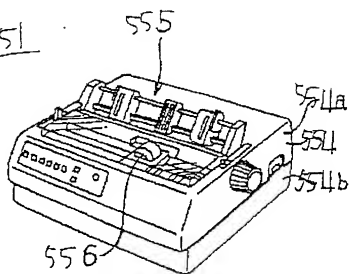
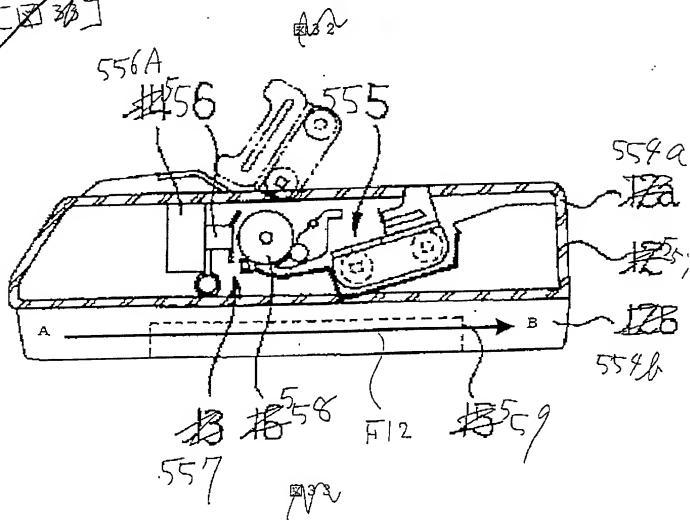


FIG 50

~~50~~
 [2/33]



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76

51
[X] 34

H1G51

面発光型半導体レーザーLEDチップ 32

反射部 R

カバー 32B

送信方向

F1

元素子発光部 32A

A

送信方向

F2

39B

光ファイバ部 39A

フォトダイオード部 39

39

B

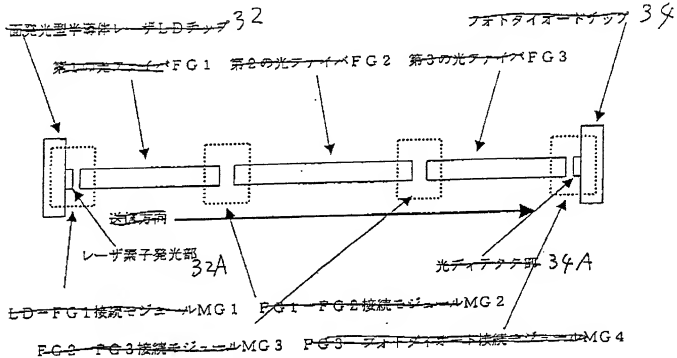
図 34

10085204.022602

5L
 [Z] 35

FIG 52

7k
 2

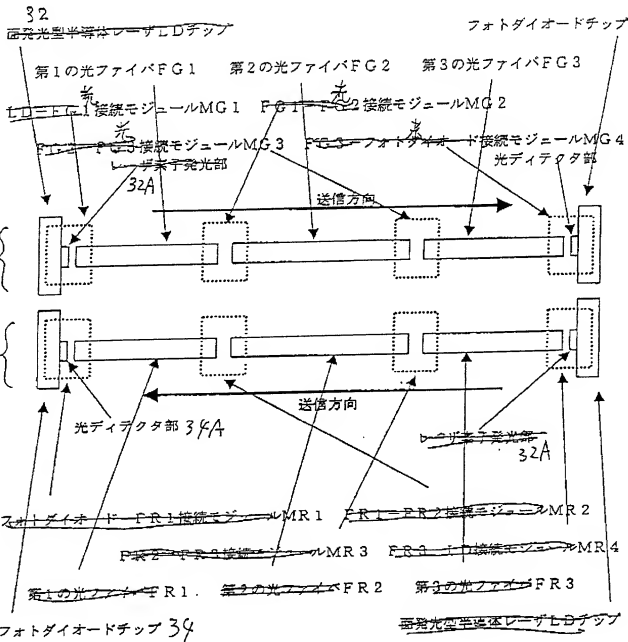


10055204.022602

[~~FIG 32~~]

FIG 33

37



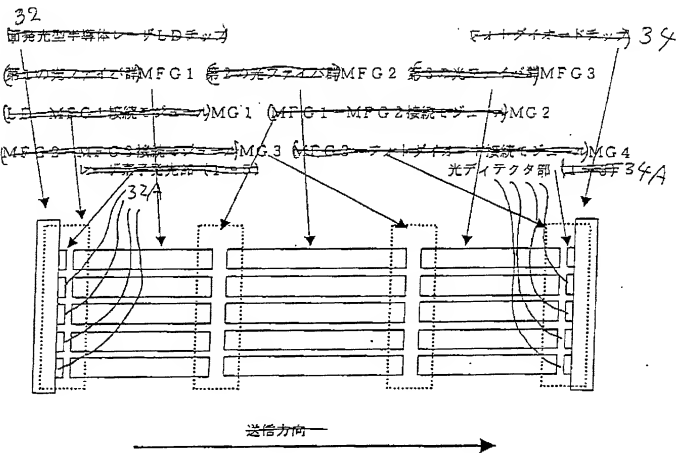
36

202204022602 1005204.022602

32

F1G59

34



37

10085204.022602

☒ 55
~~36~~

FIG 55

78

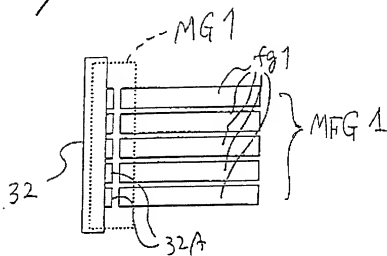


FIG 31B
LV

10085204.022502

FIG 56

FIG 56

61

LEDチップホルダ

LEDチップホルダ

62

8

10052204.022602

32

32A

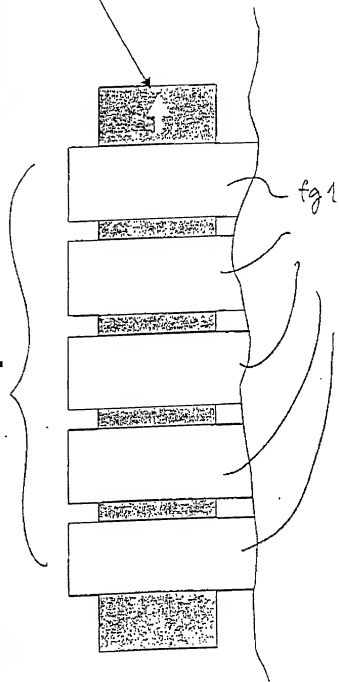
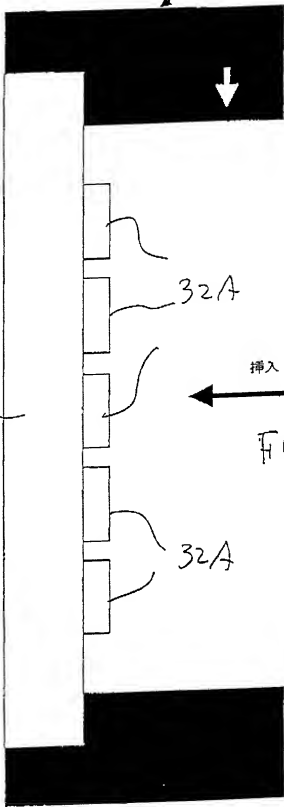
挿入

FIG 1

32A

FIG 1

FIG 1

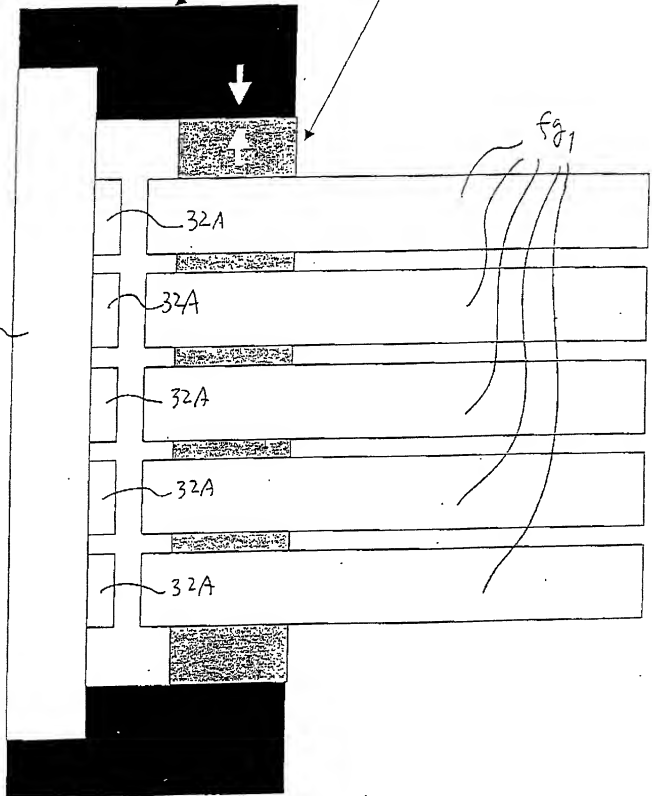


[12] 887 FIG 57

48

LDエッジホルダ 61

ファイバホルダ 62



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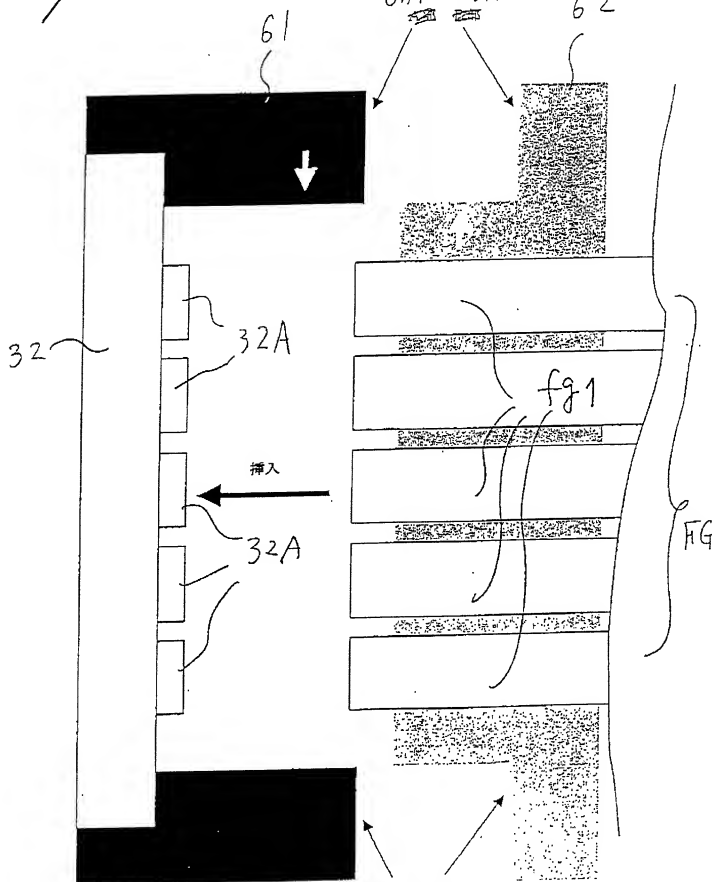
49

~~FIG 58~~

FIG 58

58

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~~FIG 58~~ 61A 62B

A8

CE 127
 57

FIG 59

61

62

32

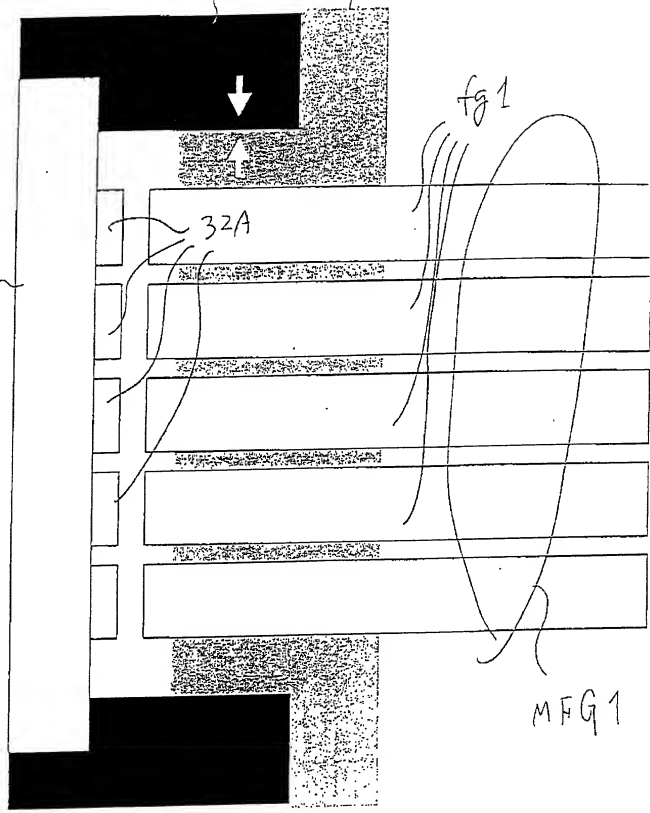
32A

fg 1

MFG 1

42

10085204.022602



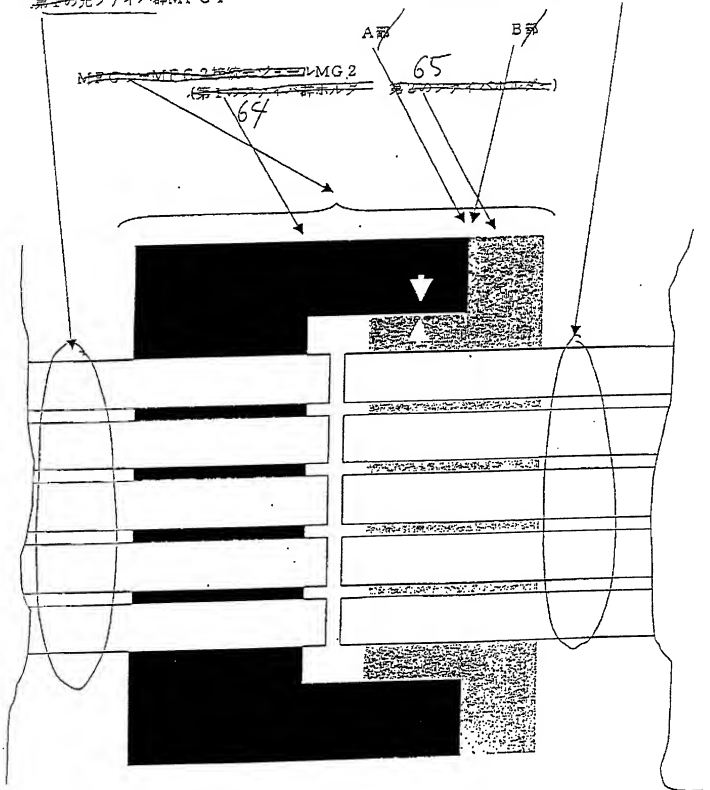
48

[~~図48~~]
60

H1G60

第1の光ファイバ群MFG1

第2の光ファイバ群MFG2



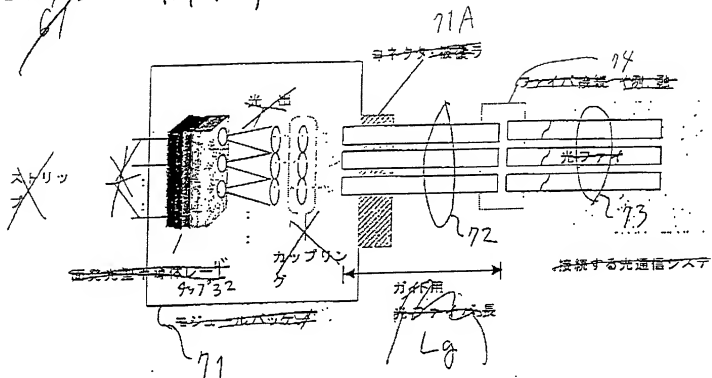
72

10085204.022602

~~$\square \frac{1}{2} \square$~~

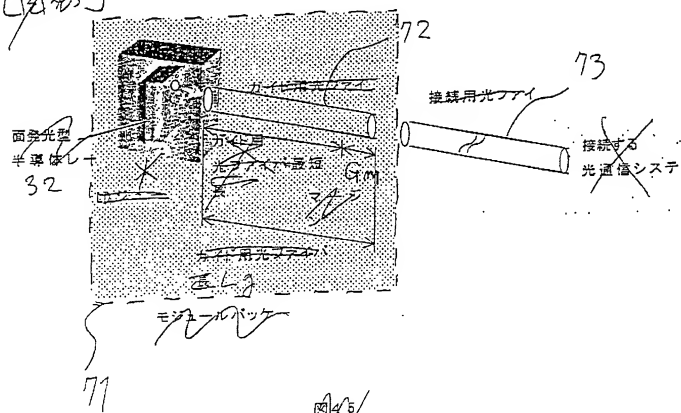
H/G6/

59



~~62
[45]~~

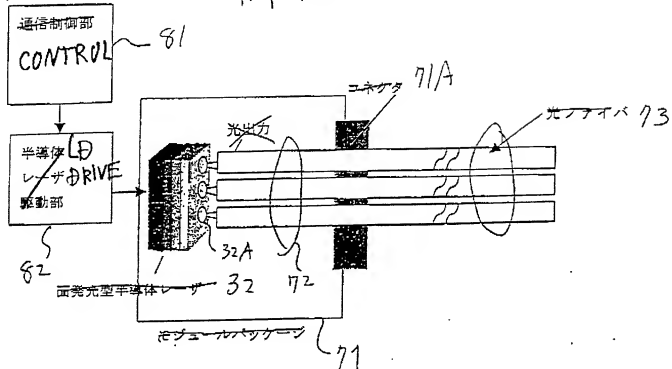
F1/G62 ⁴⁴



710

~~[12/03]~~

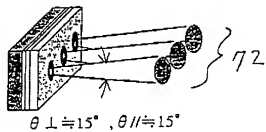
F1G63



~~図46~~

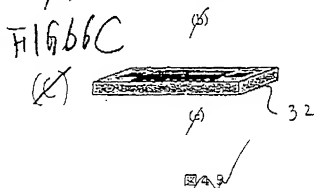
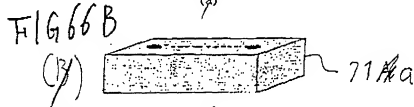
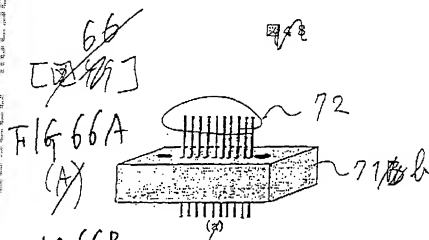
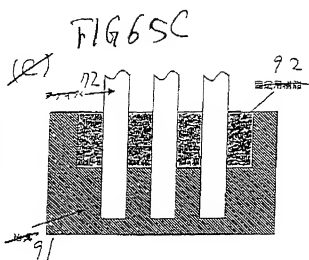
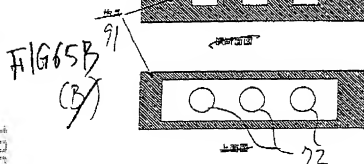
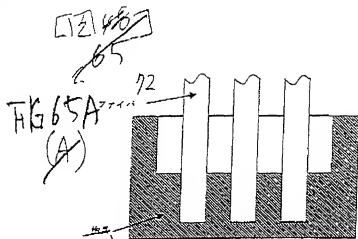
~~[12/04]~~

F1G64



~~図47~~

10065204, 022602



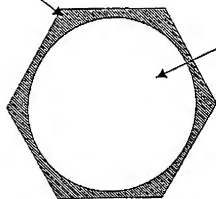
} 71A

710

~~FIG 67~~

FIG 67

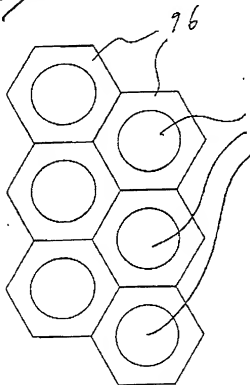
樹脂を塗布する領域 96



光ファイバ 95

~~FIG 68~~

FIG 68



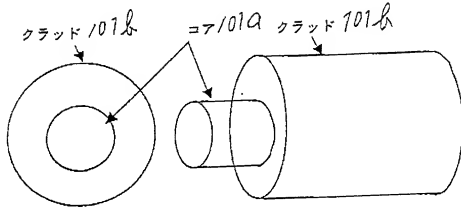
95

~~FIG 68~~

1066204, 022602

67
~~12/82~~

FIG 69



70
~~12/83~~

FIG 70

図 52

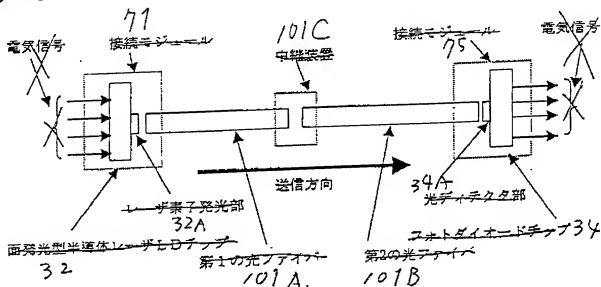


図 53

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FIG 71

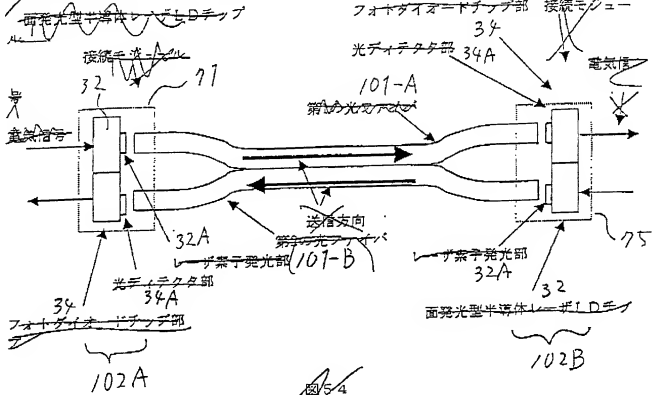


図 54

FIG 72

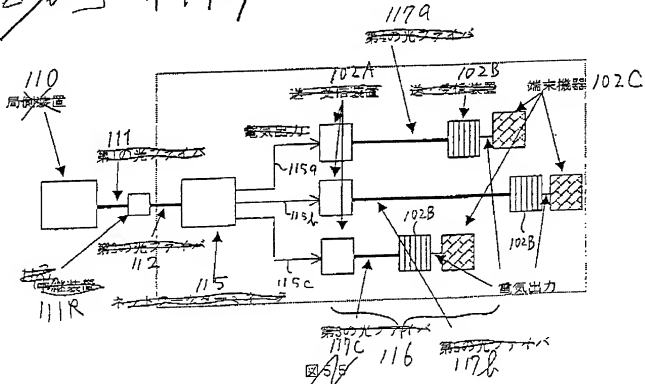


図 55

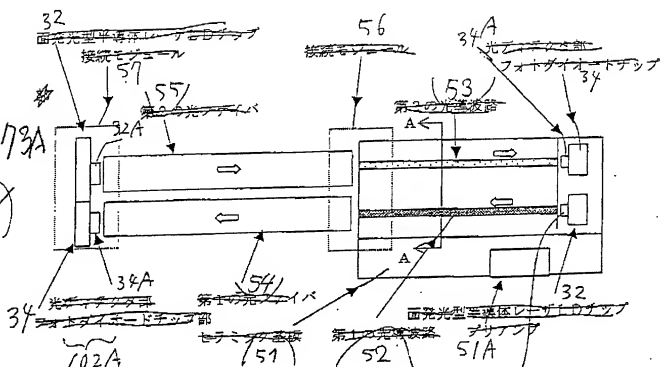
211

φ11

[1288]

FIG 73A

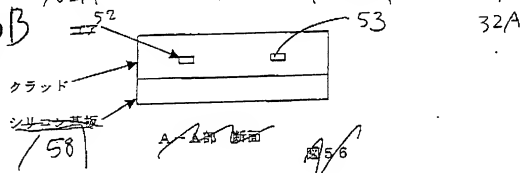
(A)



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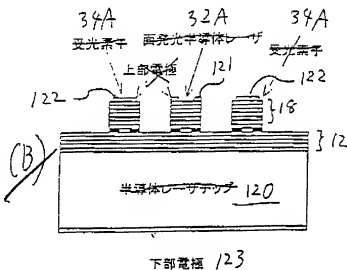
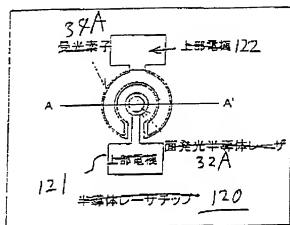
FIG 73B

(B)



~~[FIG 74A]~~ FIG 74A

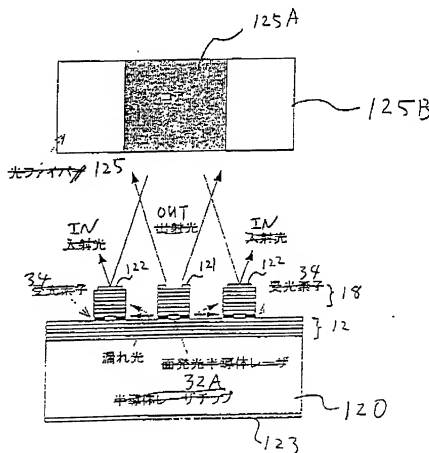
FIG 74B 12



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~~[FIG 75]~~ FIG 75

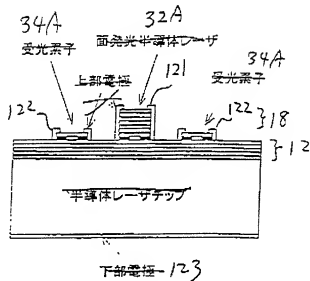
FIG 75



FI 976A

F/G 26B

分 12



~~(a)~~

~~59~~

~~(b)~~

~~77~~
~~[12] 80~~

FLG 77

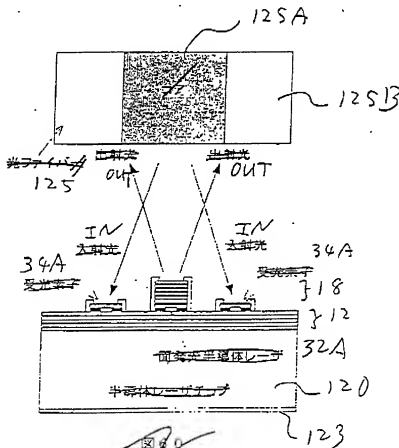


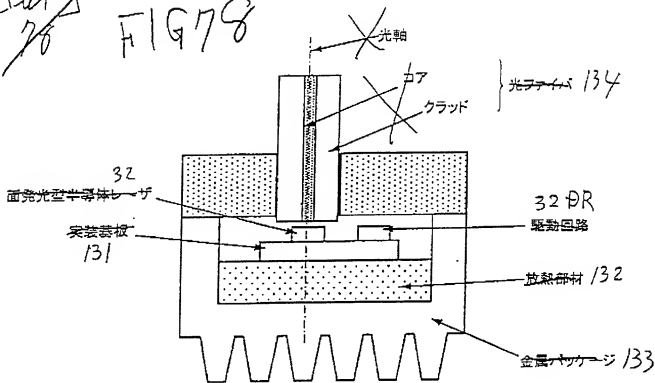
图 2-1-1

40

13

~~FIG 78~~

FIG 78



~~FIG 79~~

FIG 79

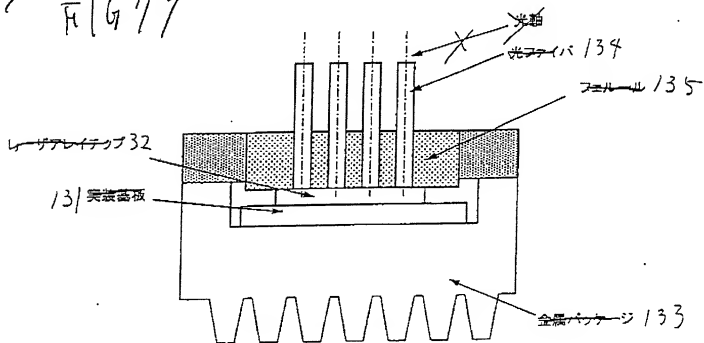


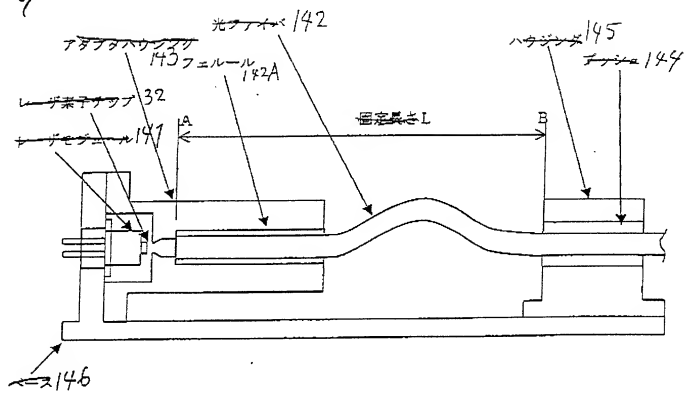
FIG 79

10085204, 022602

718

[2] 63
 80

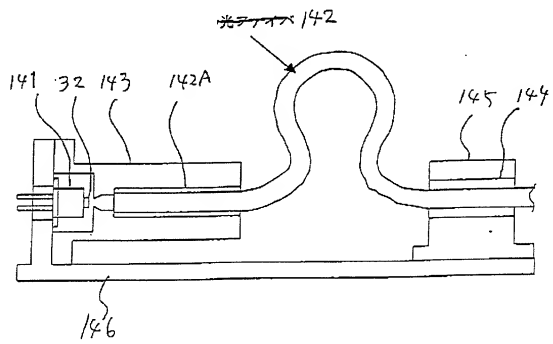
FIG 80



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[2] 81
 80

FIG 81

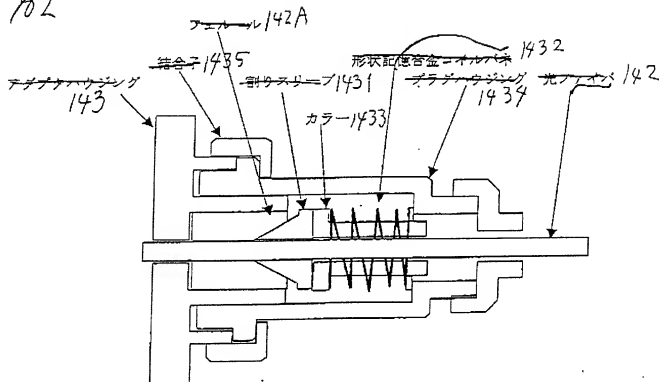


84

[~~FIG 82~~]
82

FIG 82

7117



[~~FIG 83~~]
83

FIG 83

7117

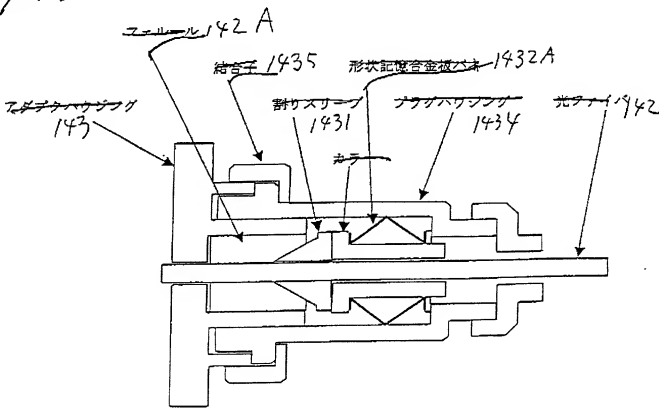
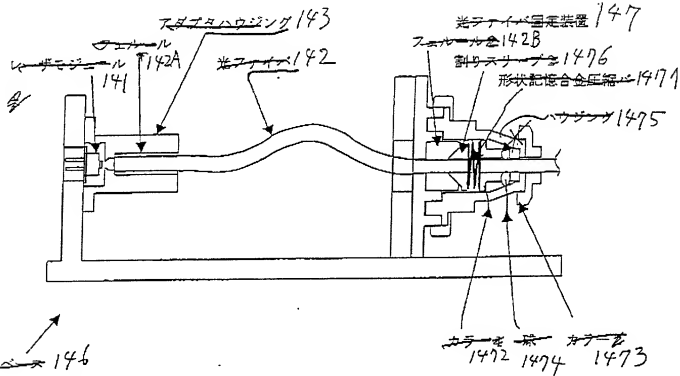


FIG 83

84
[FIG 84]

FIG 84

114



146

85
[FIG 85]

FIG 85

FIG 85

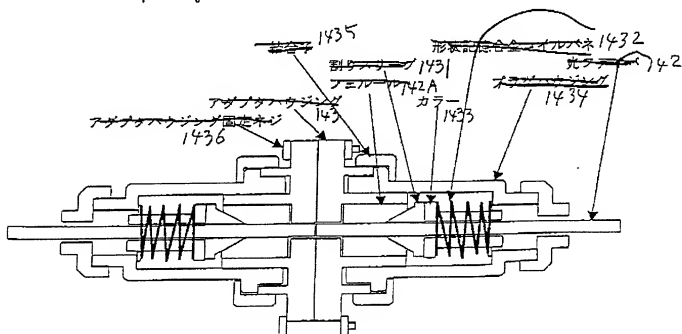
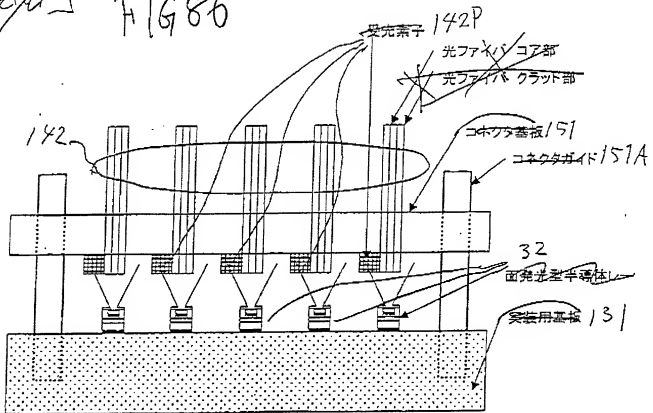


FIG 85

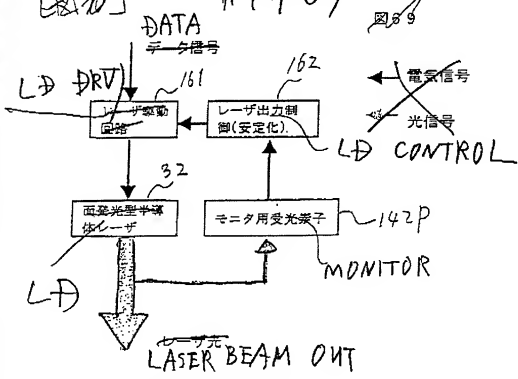
10085204.022602

15

86
[28] FIG 86



87
[28] FIG 87



光出力部のブロックダイアグラム

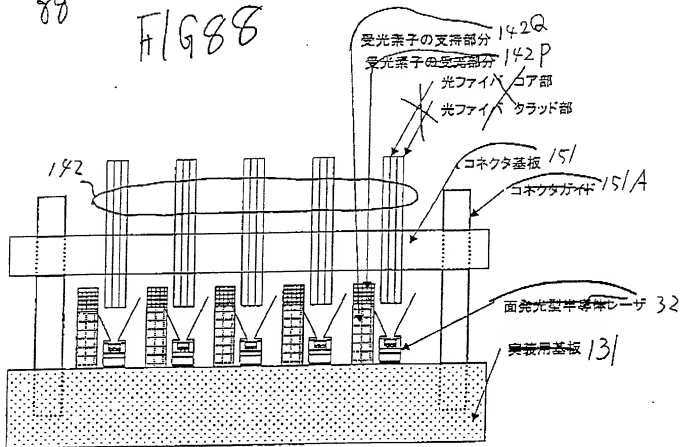
10

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13

88

F/G88



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89

F/G89

図 11

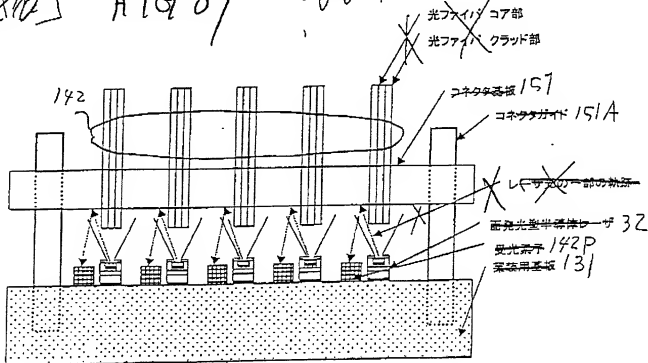


図 12

12/18/90

F1G90

7/15

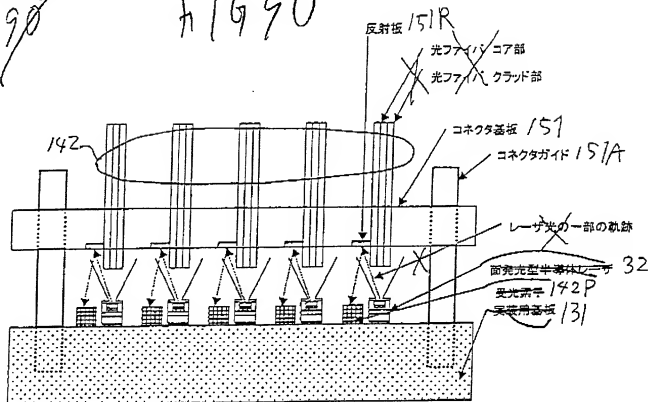


図 13

カ16

FIG 91

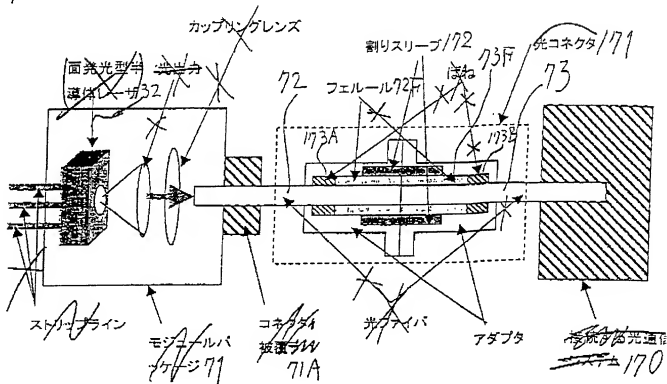


FIG 92

光ファイバ 72, 73

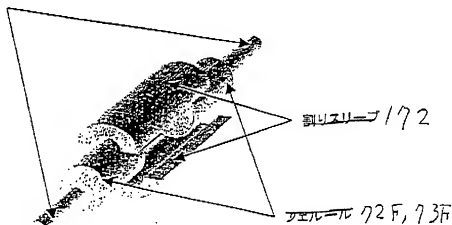
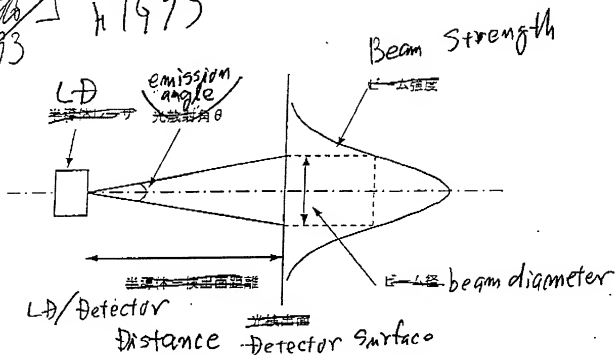


図 7/2

~~FIG 93~~ FIG 93

2/17



~~FIG 94~~ FIG 94

FIG 94

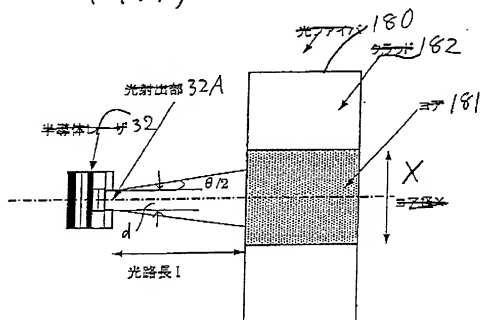


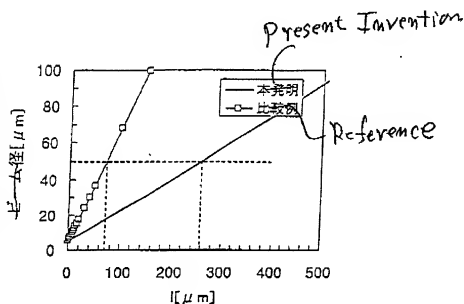
FIG 94

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[8/95]
95

FIG 95

Beam Diameter



[8/96]
96

FIG 96

図 96

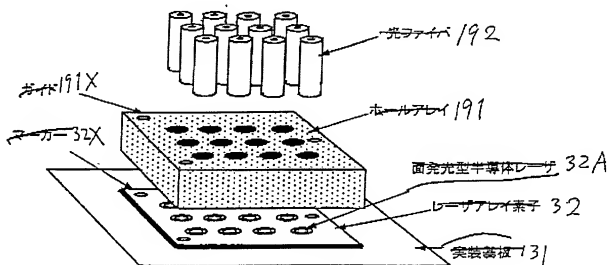


図 96

1005204.022602

~~FIG 97~~

FIG 19

FIG 97A

(A)

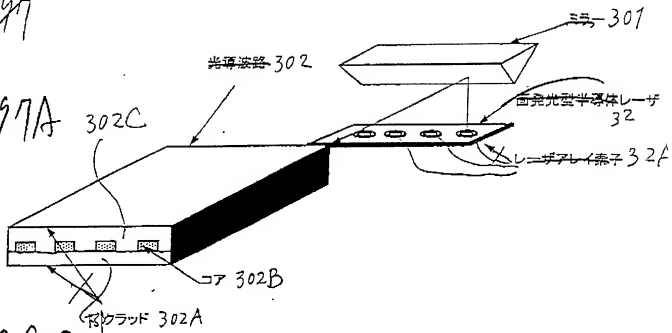
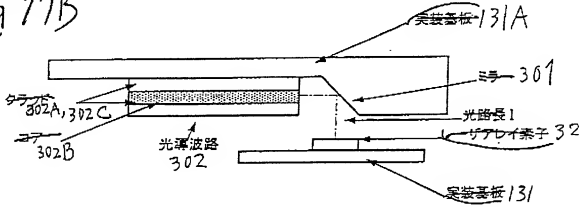


FIG 97B

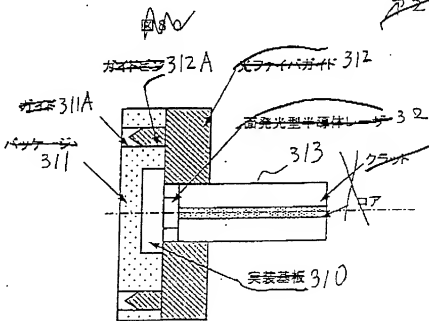
(B)



~~FIG 98~~

FIG 20

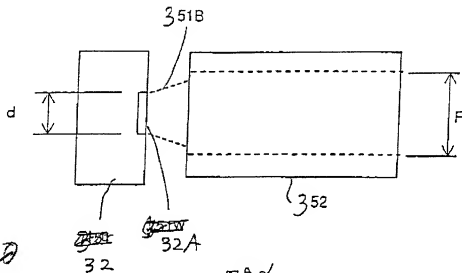
FIG 98



77
~~[3/82]~~

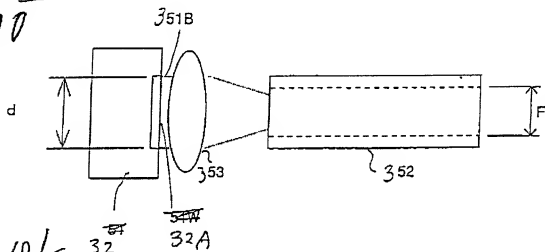
82/

FIG 99



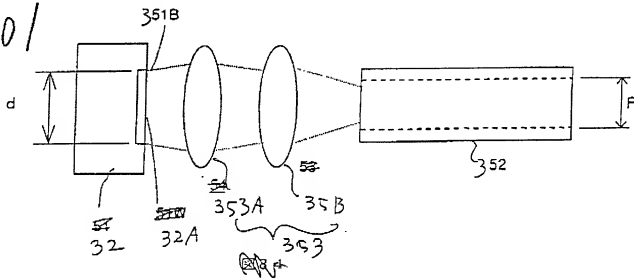
100
~~[3/82]~~

FIG 100



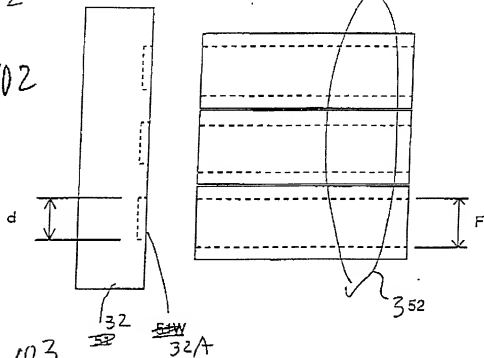
101
~~[3/82]~~

FIG 101



[12] ~~88~~
102

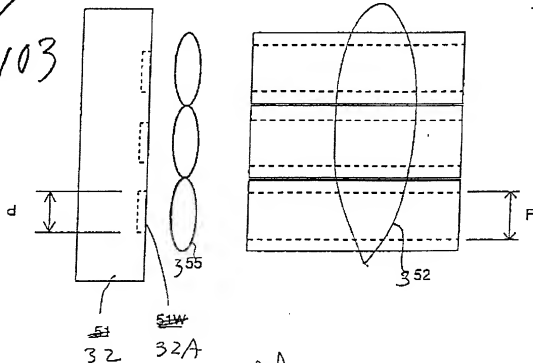
F/G/102



7/12/

103
[12] ~~88~~

F/G/103



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104

~~(A)~~



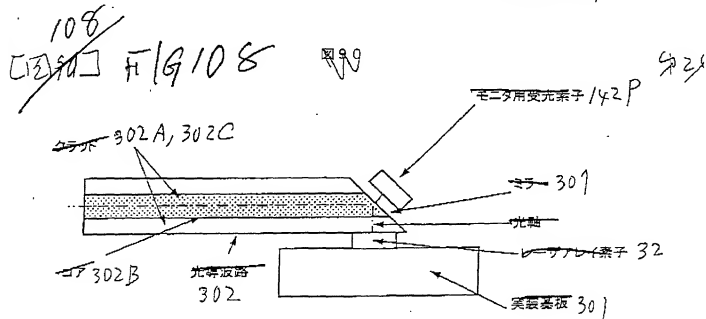
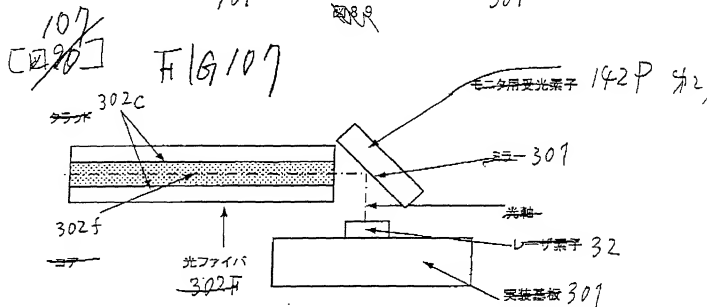
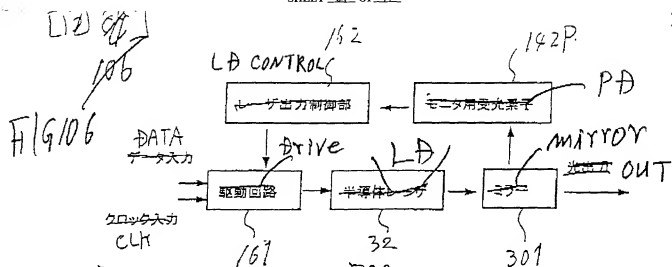
~~(B)~~



[17] 828

24





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~~[FIG 92]~~
 109

FIG 109

725

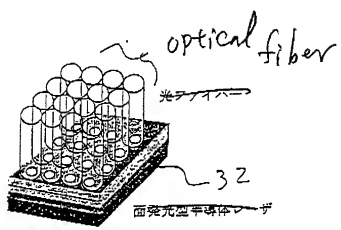


FIG 92

~~[FIG 92]~~
 110

FIG 110 A
 (A)

725

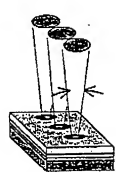


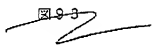
FIG 110 B

(B)



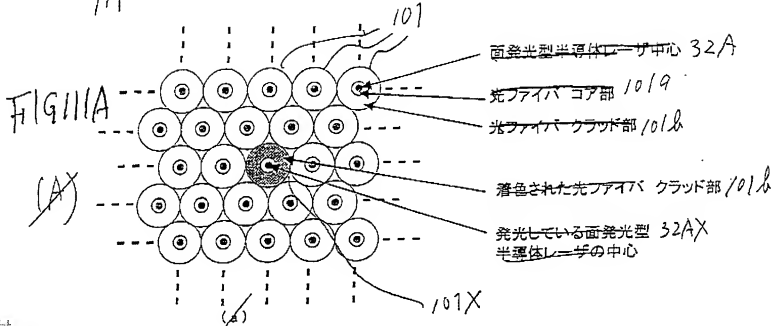
(a) 面発光型半導体レーザ (b) 端面発光型半導体レーザ

FIG 93



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FIG 11A
 111



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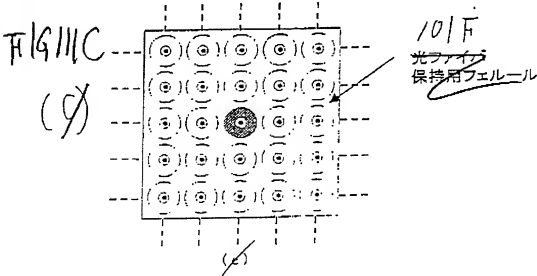
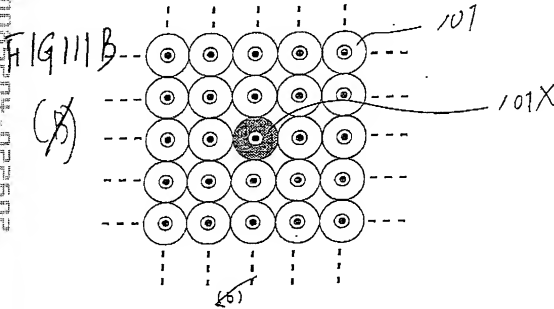
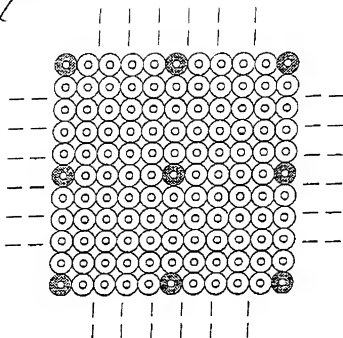


図 9 4

112
~~112~~
112

H19112

425



113
~~113~~
113

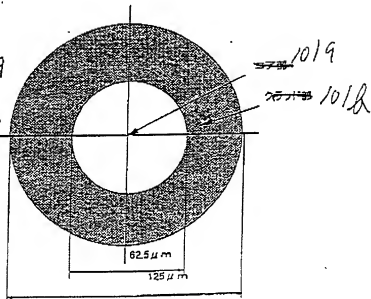
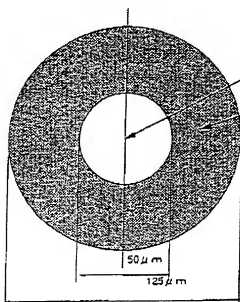
113

(A) H19113A

425

H19113B

(B)



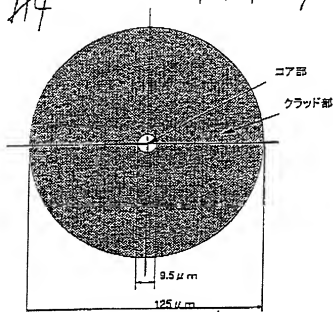
113

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~~FIG 114~~
114

FIG 114

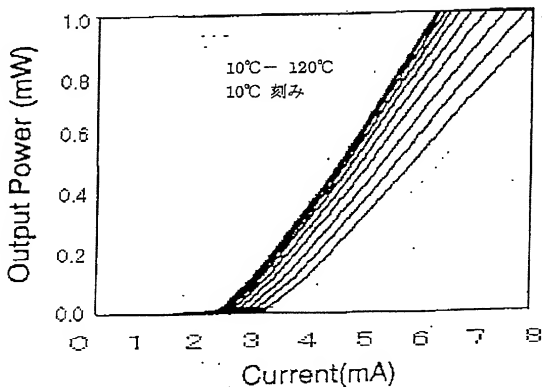
25



115
~~FIG 115~~
115

~~FIG 115~~
FIG 115

26



Figure

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H 19116

Temperature
温度下限

426

~~温度下限~~ Upper Limit

光出力上段

光緒九年

酒 席 上 的

Temperature Lower Limit

光出力下限

Optical Lower Limit

Current

~~Static~~ a
Current

—電流 b

Current

~~117~~ 117 H 16/117

99

~~力 27~~

COMMUNICATION
CONTROL

通信制御部

~~光量 補正値~~
~~変換表~~

CONVERSION TABLE

414A

~~死光制御部~~
CONTROL

受光線理部

PD PROC

定電流電源

CURRENT
SOURCE

受光素子, 412

~~半導体レーザ~~

32

~~ムナミテ~~ 411

410

100

为28

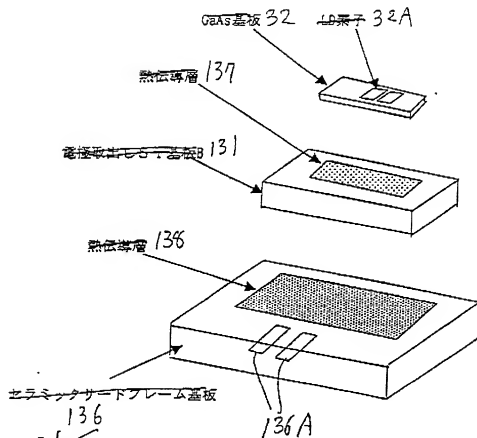


429



120
[121/43] FIG 120

FIG 29



121
[121/44] FIG 121

FIG 29

FIG 29

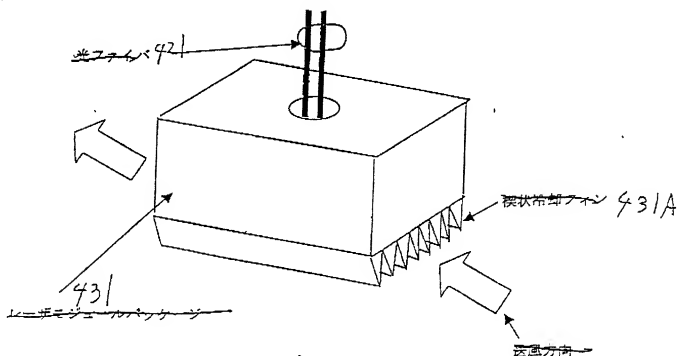
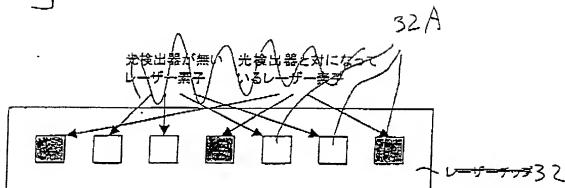


FIG 29

122
 [12/105]

HIG 122

430



123
 [12/106]

図 1A5

HIG 123

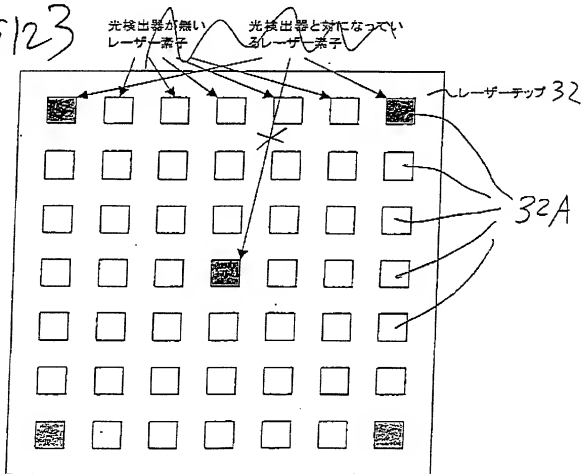


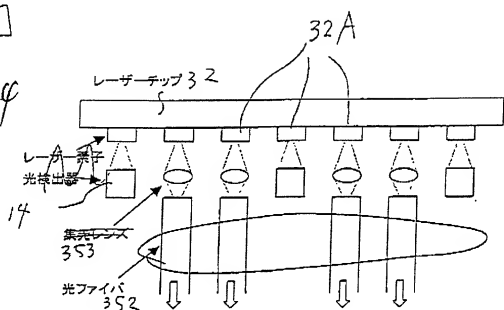
図 106

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124
[~~124~~]

F/G/24

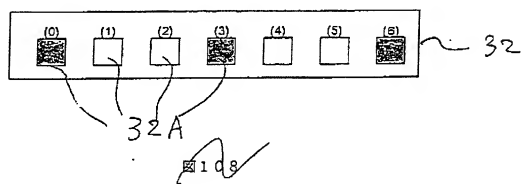
30



125
[~~125~~]

F/G/25

107



20065204.022600

~~FIG 126~~
 126

930

FIG 126

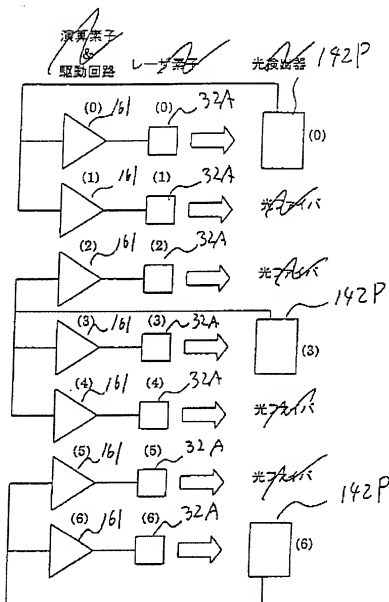


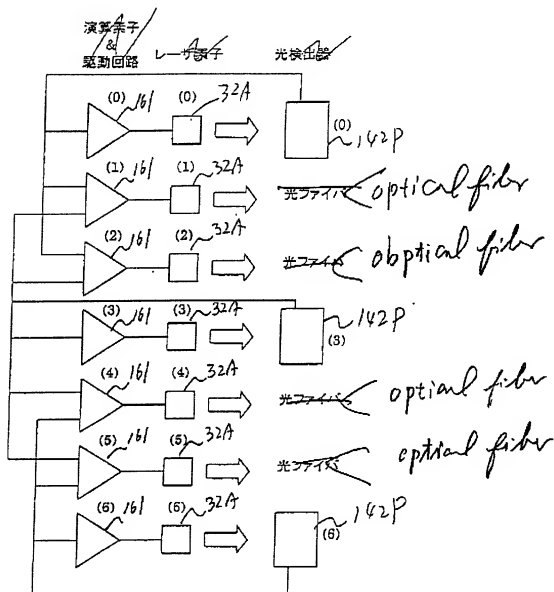
FIG 126

10055204.022602

730

[~~FIG 120~~]
 127

FIG 127



730

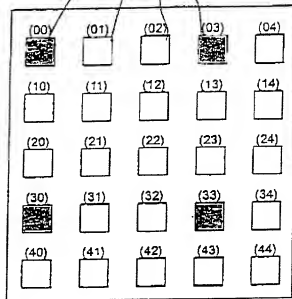
10065224.022603

[12] ~~128~~
128

F/G/28

32A

30



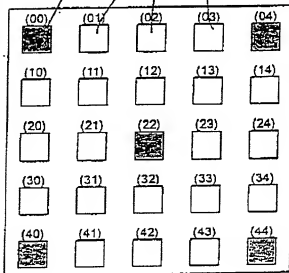
~~128~~

[12] ~~129~~
129

F/G/29

32A

32

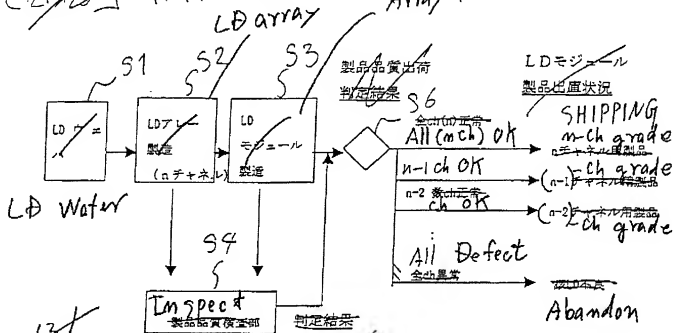


~~129~~

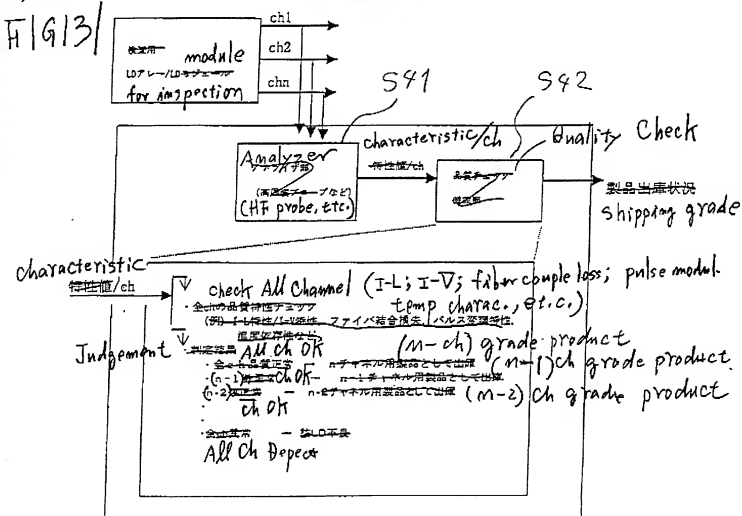
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~~130~~
[130] H/G130

A31



~~131~~
[131] H/G131



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